

## AMENDMENTS TO CLAIMS

Please cancel claims 17-69 without prejudice of disclaimer.

Please amend the claims to read as indicated below.

1. (Currently Amended) A process for producing a an orthopedic component, comprising:
  - a. casting a blank using in a metal mold ~~which imparts providing~~ sufficient conductive heat transfer from the blank to rapidly cool achieve rapid cooling of the blank ~~in order to and~~ produce a blank which ~~features~~ a refined grain structure ~~therein sufficient to prevent cracking or non-uniform flow during forging;~~ and
  - b. subsequently forging the blank to further refine the microstructure by further reducing grain size, and thereby produce said component.
2. (Original) A process according to claim 1 in which the blank is cast from a cobalt chrome alloy.
3. (Original) A process according to claim 2 in which the cobalt chrome alloy is a Co-28Cr-6Mo alloy.
4. (Original) A process according to claim 1 in which the blank is cast from a titanium alloy.

5. (Original) A process according to claim 1 in which the blank is cast from a zirconium alloy.
6. (Original) A process according to claim 1 in which the blank is cast from a stainless steel alloy.
7. (Original) A process according to claim 1 in which the casting process is a gravity metal mold process.
8. (Original) A process according to claim 1 in which the casting process is a vacuum die casting process.
9. (Currently Amended) A process according to claim 2 in which the blank after casting and before forging has features a an average grain size smaller than 300  $\mu\text{m}$ .
10. (Currently Amended) A process according to claim 2 in which the blank after casting and before forging has features a an average grain size smaller than 150  $\mu\text{m}$ .
11. (Currently Amended) A process according to claim 2 in which the blank after casting and before forging has features an ultimate tensile strength of at least 665 MPa.

12. (Original) A process according to claim 3 in which the component after forging complies with ASTM F-799-96.

13. (Currently Amended) A process for producing an orthopaedic component, comprising:

a. casting a blank from a cobalt chrome alloy ~~using in~~ in a metal mold ~~which imparts providing~~ sufficient conductive heat transfer from the blank to ~~achieve cooling of cool~~ the blank ~~in order to and~~ produce a grain size smaller than 300  $\mu\text{m}$  and ultimate tensile strength of at least 665 MPa; and

b. subsequently forging the blank to further refine the microstructure by further reducing grain size, and thereby produce said component, the a component complying with ASTM F-799-96.

14. (Original) A process according to claim 13 in which the casting process is a gravity metal mold process.

15. (Original) A process according to claim 13 in which the casting process is a vacuum die casting process.

16. (Currently Amended) A process according to claim 13 in which the average grain size of the blank is smaller than 150  $\mu\text{m}$ .

Please add the following new claims.

70. A process according to claim 1, wherein the forging results in a reduction in average grain size by approximately 95%.
71. A process according to claim 1, wherein the average grain size after forging is at most 17.1  $\mu\text{m}$ .
72. A process according to claim 13, wherein the forging results in a reduction in average grain size by approximately 95%.
73. A process according to claim 13, wherein the average grain size after forging is at most 17.1  $\mu\text{m}$ .